

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE



#6 response
3/2/02
B. Bello

Applicant(s): Meluch et al.
Appl. No.: 09/767,558
Filed: January 22, 2001
Title: MELT-SPUN POLYSULFONE SEMIPERMEABLE MEMBRANES AND METHODS FOR MAKING THE SAME
Art Unit: 1723
Examiner: A. Fortuna
Docket No.: ACT-5612 CON of DIV I

Commissioner for Patents
Washington, DC 20231

RESPONSE TO OFFICE ACTION

Sir:

Please enter the following Response in the above-identified patent application.

REMARKS

This Response is submitted in response to the Office Action mailed on December 7, 2001. The Office Action rejects Claims 1-18. In response, Applicants are submitting herewith the Affidavit of Shmuel Sternberg Under 37 C.F.R. § 1.132 ("Affidavit"). For the reasons set forth below and in view of the Affidavit, Applicants respectfully submit that the rejections are not proper and therefore should be withdrawn.

Claims 1-8, 10-14, and 16-18 stand rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by U.S. Patent No. 5,279,739 ('739 patent). Claims 9 and 15 stand rejected under 35 U.S.C. § 103 as being obvious over the '739 patent.

Applicants respectfully submit that the rejections are based on a misinterpretation of the cited reference as well as the claimed invention.

Each of independent Claims 1 and 5 recite, in part, that a semipermeable membrane is provided having a homogeneous structure such that the membrane has a substantially uniform structure. Independent Claim 16 recites, in part, that the polysulfone membrane has a substantially uniform structure throughout a thickness dimension of the membrane. Applicants

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have provided a number of illustrative examples that demonstrate, for example, the desirable permeability characteristics of the membranes of the present invention.

As Applicants have pointed out in the specification as well as in the response to the last Office Action, a melt-spun process is used to create the uniform structure of the membranes of the present invention. Without specific processing techniques/methods, a homogeneous uniform membrane cannot be provided. The Patent Office has stated in response that Applicants do not claim a specific process. This is inapposite. Applicants have merely pointed out that a melt-spun process is utilized to create the homogeneous structure to distinguish such structures from the prior art. In this regard, in the prior art typically a solution spinning process is used which creates an asymmetric membrane. Heretofore, the polysulfone membranes, Applicants believe, that were produced were asymmetric. The '739 patent does not disclose nor suggest the use of a melt-spun process to create a polysulfone membrane nor a polysulfone membrane having a homogeneous structure. Thus, as Applicants have pointed out, the art does not teach or suggest the claimed invention.

Applicants are submitting herewith an Affidavit from one skilled in the art, Dr. Schmuel Sternberg. Dr. Sternberg has over 35 years of experience in polymeric membrane technology and research. Affidavit, p. 1, ¶ 1. His experience has included working with a number of companies that develop and manufacture polymeric membranes. Affidavit, p. 1, ¶ 1.

As set forth in the Affidavit, the '739 patent neither discloses nor suggests a homogeneous symmetric polysulfone membrane. Affidavit, p. 2, ¶ 6. Instead, one skilled in the art would believe that the '739 patent is directed to the construction of an asymmetric membrane. Affidavit, p. 2, ¶ 6. "To the extent the '739 patent is being relied upon to disclose or even suggest to one skilled in the art, a membrane constructed from a melt-spun process or a symmetric membrane, the rejection is erroneous from a technical standpoint. Affidavit, p. 2, ¶ 7.

As pointed out by the Patent Office, the membrane of the '739 patent relates to microfiltration and ultrafiltration. These types of membranes are asymmetric. See Affidavit, p. 2, ¶ 6 and the documents cited therein i.e., *Handbook of Industrial Membrane Technology and Membrane Handbook* (Exhibits A and B to Affidavit). Therefore, contrary to the statements made by the Patent Office, the '739 patent does not describe a homogeneous symmetric membrane. Rather, an asymmetric membrane is disclosed. Furthermore, contrary to the arguments made by the Patent Office, the '739 patent does not even suggest a homogeneous

symmetric membrane but rather an asymmetric membrane. See Affidavit, p. 3, ¶ 7 ("nor would the '739 patent disclose or suggest to one skilled in the art the production of a symmetric membrane.")

Therefore, Applicants respectfully submit that as a matter of law and fact, the rejections of Claims 1-18 are improper and therefore should be withdrawn. In this regard, the cited art fails to disclose or suggest a polysulfone semipermeable membrane having a homogeneous structure.

For the foregoing reasons, Applicants respectfully request reconsideration of their patent application and earnestly solicit an early allowance of same.

Respectfully submitted,

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